

ETHICS – different attitudes to fish welfare depending on the situation?

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I doubt that a conference like this would have been possible 10 years ago.

This alone shows that attitudes to fish are changing in the research situation.

And that brings us directly over to my topic today: Ethics – different attitudes to fish welfare depending on the situation? I can immediately reveal that the answer to this is YES, which is also the case for human attitudes to mammals, they depend on the situation. During the presentation I will try to enlighten some of the background for this.

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I will start with public attitudes revealed through polls, then discuss the difference between a moral judgement and an opinion, and the basis for a moral judgement. I'll continue by applying morally relevant "facts" discussing 5 different situations where man makes use of fish: Two where food supply or production is the main purpose; commercial fisheries and fish farming, pleasure (exemplified by catch and release in angling) and ornamental fish, and fish used in scientific experiments. Then I will briefly

discuss how the 3 Rs may be applied on other situations than experimental animals.

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Here are some results from Norwegian polls in recent years, covering different areas of use of fish and other vertebrates. The light blue at bottom is those who accept the particular use of animals, and the green on top those who disagree. As you see, people have no problem that animals are kept to become food. Most Norwegians accept hunting, in contrast to what is the case in central Europe. However, catch and release is considered wrong by most Norwegians. This suggests that hunting or fishing still is considered as a way to harvest surplus natural resources for food in our country, and not merely a recreational sport. When it comes to experimental animals, the view varies with the purpose. To use animals for medical research is accepted, but not for testing cosmetics. Experimentation aimed at increasing fish production is not favoured by a large majority. However, the last question is hardly objective, and might have given another answer if formulated differently.

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However, attitudes to animals also depend on likes and dislikes, which may be very arbitrary. We (humans) seem to favour species we have a social

relationship with (like a dog in contrast to a pig), animals which are cute and easy to interpret (like a puppy in contrast to a fish), are beautiful to watch (like a butterfly compared to a fly), furthermore, we are more concerned about suffering in large animals than in small ones, and we dislike animals which we perceive as ugly, disgusting or dangerous. In this context, fish have few natural advantages. Actually, this implies that fish need protection through legislation and guidelines, may be more than dogs and cats.

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A moral judgement is more than an opinion. If I say “I love horses”, or “I prefer cappuchino to plain, black coffee” that is an opinion and nothing more. There is no reason for you to discuss such a statement. A moral judgment, on the other hand, may be discussed and defended. If you claim that “It is right to use animals in research because medical progress is dependent on that” you should be able to defend this position to others, by using logical, consistent arguments. And if you don’t succeed in convincing others that you are right, you may even end up changing your own position if the arguments you are met with seem more valid.

To make a moral judgment you consider the present factual knowledge in the context of your values and principles. So, first let us look at values.

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Values are about what is considered good and bad. People tend to share a set of values, but the priorities (which values are the most important) may differ significantly between cultures and persons, as well change in one person with age and experiences. Freedom is considered important in the Scandinavian countries, which is mirrored in the view on space requirements for animals in zoos. In some cultures, honour and pride may be considered more important than respect for life.

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Norms and principles are about what is right or wrong (and ethics is essentially about our treatment of others). Legislation is the norms of the society. The precautionary principles may tell us to handle fish with care, even if we are uncertain about what fish feel. The principle of sustainable use of resources has impact on how fisheries are regulated, and tells us not to waste food. Obviously, it is wrong to cause harm to others, and it worse to cause harm on purpose. However, causing harm may be excused if you have a very good reason. We should do our best, but the impossible is not demanded.

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Then some concepts. We have direct moral duties to members of the moral community. Usually, all human beings are considered part of this moral community, either as moral agents (who are able to think and understand consequences of acts and thus are expected to act morally) or as moral patients like small children or mentally retarded, who are not expected to act morally. It is a common view that humans have direct duties to animals too. This means that animal welfare is important because of the animal, not merely because of other people's feelings. Animals are then part of the moral community, at least those animals which are considered sentient. The interests of such animals should be considered.

What is a right act may in principle be viewed in two ways (there are of course other theories). The utilitarian view considers the consequences, only. The consequences, in respect of for instance pain and pleasure, for all involved individuals are counted, and the alternative that gives most pleasure and least pain in the long run, is the right act. The rights view claims that although consequences are important, they are not enough. The end does not justify the means. The individual integrity should not be violated. Everyday ethics is often a blend of these theories, also reflected in the Norwegian Animal Welfare Act.

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Then we return to the facts. Facts that may be important to consider are

- Fish physiology and sentience
- Number of individuals
- Cost to fish
- Human benefit
- Can harm be avoided? Are there alternative ways to achieve the goal?

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Sentience is an important characteristic for being part of the moral community. Without sentience, fish welfare may be compared to caring for potted plants.

There is not a consensus in the scientific world that fish are sentient beings able to suffer, as the following conclusions illustrate:

- Affective states of pain, fear and stress are likely to be experienced in fish in similar ways as in tetrapodes (Chandroo et al. 2004).
- It is unpalatable that fish can experience pain or other emotions (Rose, 2002).

Although few scientists share the last view, the uncertainty may force us to use the precautionary principle. Give the fish the benefit of doubt. Others take the easy way and look to animal welfare legislation, where fish are

protected against unnecessary suffering. But remember, even a procedure that is legal is not necessarily legitimate.

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Number of fish. Numbers are not given in statistics from fisheries. Fish are measured in tons, actually thousands of tons, not in individuals. In the left figure, I have estimate the number of individual fish of some common species, from tons.

Note that the scale is different in the figure to the right. The number of salmon and trout kept in cages in sea water in 2001 is given, compared with the number of fish exposed to catch and release (which is close to zero), the number of ornamental fish in private homes (which is estimated to 0.7 million), and the registered number of experimental fish use (which is about 1 million).

When it comes to number, fisheries and fish farming are in a different division.

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Then we will look more carefully into what happens to the fish. First: Commercial fisheries, where the purpose is to catch fish for food.

Human control is basically restricted to the death phase.

Few methods allow individual handling, so the fish will often die from suffocation.

By-catch which is not utilized, may be high, and the fish is often dead when thrown away.

The harm caused to the fish, in terms of time and injury, vary with method.

- Trawl (trål): The fish become exhausted, the skin is scraped, eyes may protrude and the swim bladder in some species burst because of sudden change in pressure, the fish will eventually be crowded and compressed. The trawl is run for some hours. No individual handling, some boats process the fish on board.
- Danish seine (snurrevad): Less harm than trawl, because of reduced speed.
- Purse seine (snurpenot): Less harm, crowding.
- Gillnet (garn): struggle, damage to skin. May take hours to die from suffocation caused by hampered opercular movements.
- Bottom longline (line): Struggle for some period, possibly pain. May be alive for a long time. May be attacked by predators.
- Hand line / jig: Struggle, possibly pain, but lasting only for minutes. Easy to kill fish humanely.
- Fish trap (ruse): No physical harm, however some species panic.

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In fish farming, there is human control over the fish's life span from hatching to death

- Artificial environment which means restrictions on natural behaviour
- Some welfare problems, including:

Bad water quality

Diseases like infections, wounds, cataract & deformities of skeleton and organs

Handling and crowding at sorting, vaccination, transport

Slaughter methods not ideal, escape behaviour with CO₂.

Welfare problems are side effects, not intended, and with more knowledge it should be possible to reduce the welfare problems considerably.

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Then we have come to the no food purposes. And this slide is about use of fish for pleasure.

First, we have catch and release in angling. Is this to be kind to the fish, because we let the fish go, alive? Or is it to have fun at the fish' expense? When hooked, the fish shows a strong flight response, and tries to escape. The fisherman will usually give line, to prevent the line from breaking, but also because this part is called to play the fish, which is considered an important part of the game. The

fish will be exhausted, and possibly experience pain from the hook. Mortality rate after release depends on several factors, and may be high. Studies conducted suggest that mortality is low for Atlantic salmon in cold water.

Next, we have ornamental fish in aquaria. They are kept because they are nice to watch, because the children are allergic to other pets, or because the owner has a special interest for fish or for maintaining a biosystem.

Welfare considerations include that ornamental fish are often wild catch, number of imports indicates high mortality, fish may suffer from an unsuitable environment, with wrong temperature, bad water quality, aggression, predators present in the aquarium, all due to owners lack of knowledge. In bred fish, transgenic fish and the breeding of malformations with reduced ability to swim or eat are not unusual.

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Now we have come to fish used in scientific experiments.

The purpose of scientific experiments may be to increase knowledge, to the benefit of other fish (e.g. better vaccines with fewer side effects), human beings and mother nature (e.g. toxic effects of chemicals) and science itself (knowledge of biological mechanisms, behaviour, etc).

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With these facts in mind, should those of us who are concerned about fish welfare, focus primarily on the commercial fisheries: because of the very high number of individuals, or on farmed fish, because of our extended obligations to animals we keep under our control and the high number, or should we worry the most for fish used merely for pleasure, because the benefit is not in proportion to the harm, rather than be concerned about fish used in experiments? After all, the number is relatively very low, and the purpose may, at least in some cases, be important?

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What is special about the experiment situation, that makes people, in general, be more concerned about the suffering of experimental animals than suffering experienced by production animals?

According to Richard Ryder, an animal ethics philosopher, the special things are that:

- 1) We deliberately cause the animal problems/pain that otherwise would not have occurred
- 2) The benefits that could justify this MAY or may NOT occur sometime in the future

This means that certain harm now is to be weighed against uncertain benefit in the future. Morally, it is also worse to cause harm deliberately than

unintentionally. Is it perhaps more fair to say that we conduct experiments on animals because we as human beings have the power to do so, rather than try to justify it morally?

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When animals suffer for purposes that are considered important for human life or well-being, improvements of the conditions for the animals may make the situation more acceptable. The 3 Rs Replacement, Reduction and Refinement are therefore of interest also outside the researchers world.

In the Fisheries: We could replace the worst methods and we could utilize the catch better (we now through away small fish, even if it is dead). We could reduce by-catch by developing more selective equipment, and we could refine the catch procedure by more careful handling of fish, and possibly introduce methods to kill fish rapidly and humanely.

In Fish farming: The option is refinement, and it has a huge potential. It is a win-win situation for all stakeholders. Welfare improvements will probably result in higher production or better quality.

In Angling: Catch and release: This is primarily an ethical question, whether it ever can be justified to “play” with animals on the animals’ expence.

Refinement to zero mortality may not change the position against this particular use of animals.

Ornamental fish: Refinement is possible by education/information to aquarists

Experimental fish: That's what this conference is all about

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CONCLUSIONS

- Attitudes do vary with the situation
- Polls probably reflect peoples gut feelings rather than well considered moral stands, but should not be ignored
- Values, norms and factual convictions are parts of a moral judgment.
- Thus, the relative weight on fish welfare may vary with the situation without being inconsistent.
- The 3 Rs may be a useful approach also for other areas than experimental animals.